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*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: NIACIAMIDE AND DERIVATIVES IN COMBINATION WITH AMINOSUGAR

(57) Abstract: The present invention relates to chemical complexes consisting of a pyridine carboxy derivative and an aminosugar as well as pharmaceutical compositions and dietary supplements comprising such complexes. The invention further relates to the use of such compositions or complexes for the preparation of a medicament or a dietary supplement in the suppression of hypersensitivity and inflammatory reactions such as dermatological disorders or to a method of treating such disorders by administering such compositions and complexes to a mammal, such as a human.



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INTERNATIONAL SEARCH REPORT

Int. Patent Application No.
PCT/DK 02/00445

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K31/455 A61K31/70 A61P37/00 A61P17/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, CHEM ABS Data, EMBASE, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 652 012 A (NAITO ALBERT) 10 May 1995 (1995-05-10) cited in the application claims 6,9	1-4,7-9, 13-17, 20-25, 29-33, 35,37
X	GB 2 286 528 A (WOODWARD ROBERT JOHN) 23 August 1995 (1995-08-23) cited in the application abstract; claim 1	1-17, 19-33, 35,39, 42-44, 47-55, 57, 60-62, 65-71

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

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13/12/2002

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

Int nal Application No
PCT/DK 02/00445

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KROEGER H ET AL: "THE INFLUENCE OF NICOTINAMIDE, TRYPTOPHAN, AND METHIONINE UPON GALACTOSAMINE-INDUCED EFFECTS IN THE LIVER" ARZNEIMITTEL FORSCHUNG. DRUG RESEARCH, EDITIO CANTOR. AULENDORF, DE, vol. 31, no. 6, PART 1, 1981, pages 987-993, XP002949715 ISSN: 0004-4172 figures 2,5	1-5, 7-32, 37, 39, 47, 49-54, 57, 65, 67-70
Y	GABY A R: "NATURAL TREATMENTS FOR OSTEOARTHRITIS" ALTERNATIVE MEDICINE REVIEW, THORNE RESEARCH INC., SANDPOINT,, US, vol. 4, no. 5, 1999, pages 330-341, XP000992206 ISSN: 1089-5159 cited in the application page 331 -page 332 page 339, paragraph 3	1-72
X	US 5 895 652 A (GIAMPAPA VINCENT C) 20 April 1999 (1999-04-20) cited in the application column 7, line 5 -column 8, line 37	1-12, 15-17, 20-28, 31-33, 35, 37-39, 47, 49-55, 57, 65, 67-71
X	WO 00 07607 A (KOSBAB JOHN V) 17 February 2000 (2000-02-17) page 25, line 5-8; claims 14,17 see Formula VI, 7A page 25, line 29 page 27	1-18, 20-33, 35, 37, 38
X	US 5 804 594 A (MURAD HOWARD) 8 September 1998 (1998-09-08) cited in the application claims 5,10; example 3 -/--	1-18, 20-33, 35, 39, 40, 49-55, 57, 58, 67-71

INTERNATIONAL SEARCH REPORT

International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	US 2002/068718 A1 (PIERCE SCOTT W) 6 June 2002 (2002-06-06) claims 14-16	1-17, 20-33, 35, 36, 39, 42-44, 47-55, 57, 60-62, 65-71
P, Y	WO 01 74781 A (ASTION DEV APS ; WEIDNER MORTEN SLOTH (DK)) 11 October 2001 (2001-10-11) abstract; claims 1, 8, 12, 15, 19-23	1-72

INTERNATIONAL SEARCH REPORT

International application No.
PCT/DK 02/00445

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Although claims 57-72 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.: partially 1-4, 7-9, 13-19, 23-25, 29-72
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: partially 1-4,7-9,13-19,23-25,29-72

Present claims 1-4,7-9,13-19,23-25,29-72 relate to compounds defined by reference to vague parameters or characteristics, namely "optionally substituted...", "substituted aminosugar", "aminosugar derivative", "a monosaccharide", "an oligo-saccharide", "at the most six saccharide units" (claims 1-3,15-17,23-25); "molar ratio of about...", mass ratio of about..." (claims 13,14,29,30);

The claims cover all compounds having these characteristics or properties, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the compounds by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the compounds recited in the examples and those specifically mentioned by chemical name in the claims 5,6,10-12,20-22,26-28

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/DK 02/00445

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0652012	A	10-05-1995	CA 2103399 A1 EP 0652012 A1	19-05-1995 10-05-1995
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